

SETUP-README

- **How to run the program:-**

- a. Make sure your directory which has the Assignment4Stocks.jar file must have the folder “StockDataFiles”.
 - StockDataFiles is offline storage for the stock prices on the dates supported by the program. (The list of dates is given at the end of this document.)
 - Before running the Assignment4Stocks.jar file, extract the compressed file named “StockDataFiles.zip”.
 - Now you should have a folder named “StockDataFiles” in the same directory as the Assignment4Stocks.jar file
 - StockDataFiles is provided here:-
- b. Use the following command to run the Assignment4Stocks.jar file
java -jar Assignment4Stocks.jar
- c. The program requires input from the user in the form of a CSV file.
- d. The CSV file should contain the stocks that the user wants to buy.
- e. Format of the CSV file:
 - *<ticker symbol>,<quantity>,<date>*
 - *ticker symbol*:- ticker symbol of the stocks a user wants to buy. The supported stock list is provided below.
 - *quantity*:- The number of shares/stocks a user wants to buy. This should not be a fractional value, if a fractional value is provided then the program does not create the portfolio for the given input. Also, the input quantity must be within the reasonable integer limit.
 - *date*:- This is the purchase date on which the user wants to buy the stock. The date should be in the “yyyy-MM-dd” format.
 - Example:-
 - MSFT,100,2022-30-10
 - A file can have multiple and duplicate entries of the stocks the user wants to buy. If a duplicate stock (another stock of the same organization purchased on the same date) exists, then this stock’s quantity is simply added to the existing stock, instead of creating a new stock entry in the portfolio.

- **Run the program to create a portfolio with 3 different stocks**

- a. Create a new CSV file with the following data:

- MSFT,100,2022-10-20

- NVDA,11,2022-9-10

- AAPL,20,2022-10-20

- We have already created a CSV file with the following data in the directory “res/examples” with the name “PortfoliosWith3Stocks.csv”. So, you may use this example file and edit it as required for testing the application.

- b. Run the program (Assignment4Stocks.jar file)

- Enter option 1 to create a new portfolio
 - Enter the complete path of the CSV file when the program prompts (you can enter the path of PortfoliosWith3Stocks.csv):- *Please enter the path of portfolio data file:*
 - Enter the portfolio name when the program prompts:- *Enter portfolio name:*
 - This name can be any name for your portfolio. For example, college, retirement, etc.
 - If the given CSV file exists and the portfolio with the same name isn't already present then you'll see a success message:- *Portfolio created successfully + portfolioName* (provided in the above step)
 - The program will again display the menu options. Please select option 3 to get the portfolio value on a specific date:- *Get portfolio value for a specific date*
 - This option displays the available portfolios. Please select the portfolio number you wish to get the value for, after the message:- *Select a portfolio whose value you wish see:*
 - After selecting the portfolio number, the program asks for a date for which you want to calculate the value:- *Enter the market date for calculating the portfolio value (Date format: yyyy-MM-dd):*
 - Enter the stock market date supported by the program. (These are mentioned at the end of this document). If a

date that is not supported by the application is entered, the user will be prompted with an error message.

- The program will again display the menu options. Please select option 6 to get the cost basis of a portfolio:- *Get cost basis of a portfolio on a specific date*
 - This option displays the available portfolios. Please select the portfolio number you wish to get the value for after the message:- *Select a portfolio to which you wish to get the cost basis value:*
 - After selecting the portfolio number, the program asks for a date for which you want to calculate the value:- *Enter the date for which you wish to get the cost basis of the portfolio (Date format: yyyy-MM-dd)*
 - Enter the date supported by the program.
 - You can enter 2022-10-20 to get the cost basis value of a portfolio provided above (PortfoliosWith3Stocks.csv)
 - You can also try getting the cost basis for 2022-09-10.
- **Run the program to create a portfolio with 2 different stocks**
 - a. Create a new CSV file with the following data:
GOOG,100,2022-10-20
NVDA,11,2022-9-10
 - We have already created a CSV file with the following data in the directory “res/examples” with the name “PortfoliosWith2Stocks.csv”. So, you may use this example file and edit it as requires for testing the application.
 - b. Run the program (jar file)
 - Select option 1 to create a new portfolio
 - Enter the complete path of the CSV file when the program prompts (you can enter the path of PortfoliosWith2Stocks.csv):- *Please enter the path of portfolio data file:*
 - Enter the portfolio name when the program prompts:- *Enter portfolio name:*

- This name can be any name for your portfolio. For example, college, retirement, etc.
- Make sure you enter a different name than the one used in the above portfolio else the program will prompt an error.
- If the given CSV file exists and the portfolio with the same isn't already present then you'll see a success message:- *Portfolio created successfully + portfolioName* (provided in the above step)
- The program will again display the menu options. Please select option 3 to get the portfolio value on a specific date:- *Get portfolio value for a specific date*
 - This option displays the available portfolios. Please select the portfolio number you wish to get the value for after the message:- *Select a portfolio whose value you wish see:*
 - After selecting the portfolio number, the program asks for a date for which you want to calculate the value:- *Enter the market date for calculating the portfolio value (Date format: yyyy-MM-dd):*
 - Enter the date supported by the program. (These are mentioned at the end of this document). If a date that is not supported by the application is entered, the user will be prompted with an error message.
- The program will again display the menu options. Please select option 6 to get the cost basis of a portfolio:- *Get cost basis of a portfolio on a specific date*
 - This option displays the available portfolios. Please select the portfolio number you wish to get the value for after the message:- *Select a portfolio to which you wish to get the cost basis value:*
 - After selecting the portfolio number, the program asks for a date for which you want to calculate the value:- *Enter the date for which you wish to get the cost basis of the portfolio (Date format: yyyy-MM-dd)*
 - Enter the date supported by the program.
 - You can enter 2022-10-20 to get the cost basis value of a portfolio provided above (PortfoliosWith2Stocks.csv)
 - You can also try getting the cost basis for 2022-09-10.

- Invalid inputs
 - a. Input file extension
 - The program supports CSV files only. If a file with an unsupported extension is provided, an error is displayed.
 - b. Fractional inputs
 - The program does not accept fractional input for stock quantity.
 - An error message is shown if a fractional input is provided.
 - c. Arbitrarily large stock quantities
 - The stock quantity for a share must be less than Integer.MAX_VALUE (2147483647).
 - d. Date format for calculating portfolio value
 - If the date for getting a portfolio value isn't provided in the specified format then the program shows an error message.
 - e. Invalid ticker symbol
 - The program supports 50 ticker symbols, if an invalid/ unsupported symbol is provided then the program gives an error.

- List of stocks the program supports

S. No.	Company Name	Stock Ticker Symbol
1	APPLE INC.	AAPL
2	MICROSOFT CORPORATION	MSFT
3	ALPHABET INC.	GOOG
4	AMAZON.COM , INC.	AMZN
5	TESLA, INC.	TSLA
6	BERKSHIRE HATHAWAY INC.,	BRK.A
7	UNITEDHEALTH GROUP INCORPORATED	UNH
8	EXXON MOBIL CORPORATION	XOM
9	JOHNSON & JOHNSON	JNJ
10	VISA INC.	V
11	WALMART INC.	WMT
12	JPMORGAN CHASE & CO.	JPM
13	CHEVRON CORPORATION	CVX

14	ELI LILLY AND COMPANY	LLY
15	NVIDIA CORPORATION	NVDA
16	THE PROCTER & GAMBLE COMPANY	PG
17	MASTERCARD INCORPORATED.	MA
18	THE HOME DEPOT, INC.	HD
19	BANK OF AMERICA CORPORATION	BAC
20	PFIZER INC.	PFE
21	ABBVIE INC.	ABBV
22	THE COCA-COLA COMPANY	KO
23	MERCK & CO., INC.	MRK
24	PEPSICO, INC.	PEP
25	Meta Platforms, Inc.	META
26	COSTCO WHOLESALE CORPORATION	COST
27	ORACLE CORPORATION	ORCL
28	THERMO FISHER SCIENTIFIC INC.	TMO
29	MCDONALD'S CORPORATION	MCD
30	Broadcom Inc.	AVGO
31	THE WALT DISNEY COMPANY	DIS
32	ACCENTURE PUBLIC LIMITED COMPANY	ACN
33	CISCO SYSTEMS, INC.	CSCO
34	DANAHER CORPORATION	DHR
35	WELLS FARGO & COMPANY	WFC
36	ABBOTT LABORATORIES	ABT
37	BRISTOL-MYERS SQUIBB COMPANY	BMJ
38	SALESFORCE, INC.	CRM
39	CONOCOPHILLIPS	COP
40	VERIZON COMMUNICATIONS INC.	VZ
41	NEXTERA ENERGY, INC.	NEE
42	THE CHARLES SCHWAB CORPORATION	SCHW
43	ADOBE INC.	ADBE

44	LINDE PUBLIC LIMITED COMPANY	LIN
45	TEXAS INSTRUMENTS INCORPORATED	TXN
46	UNITED PARCEL SERVICE, INC.	UPS
47	NIKE, INC.	NKE
48	AMGEN INC.	AMGN
49	Philip Morris International Inc.	PM
50	MORGAN STANLEY	MS

- Dates on which the portfolio value can be determined
 - The program supports dates in the following range.
 - Year 2000 to Current Date
 - These dates don't include Holidays, Saturdays, and Sundays.